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The Federal Communications Commission
Washington D.C. 20554

Re: MB Docket No. 02-230

Dear Commissioners:

I am responding to your Notice of Proposed Rulemaking, adopted August 8, 2002, regarding the issue of the "broadcast flag."

While I personally agree with the many replies in opposition to the flag, I would like to take this opportunity to respond to some of the specific issues raised in your statement. I offer my comments in the order in which they appear in your notice.

| Without adequate protection, digital media, unlike its analog counterpart, is susceptible to
| piracy because an unlimited number of high quality copies can be made and distributed in
| violation of copyright laws.

This statement is untrue. Digital and analog media (and more to the point, broadcasts) are equally susceptible to piracy because:

1) Television viewers, especially cable and satellite subscribers, have access to a very high quality analog signal.

2) Federal law 17USC1201(k) prohibits broadcasters from applying Macrovision copy protection to free television and basic and extended basic tier cable broadcasts. Thus, television signals are guaranteed by Federal law to be compatible with video recording devices, and therefore compatible with all video capture devices.

3) Devices are readily available on the mass market which are fully capable of performing the process of turning a high quality analog signal into a high quality digital signal. For instance:

http://pcmag.pricegrabber.com/search_attrib.php/page_id=336/ut=4051e5600f4b1526

contains a list of 257 PC adaptor devices, in addition to the thousands of different models

of video tape recorders currently available that perform this function. These devices are legitimate products. They are products that one would use to convert your home videos into DVDs, or into a form suitable for transmission over the internet. These devices are the current "hot item" in electronics store. A recent visit to Circuit City revealed an entire shelf display with at least a dozen models of video capture cards. These devices are fully capable of converting an analog broadcast into a digital datastream.

Therefore, digital and analog broadcasts are equally susceptible to piracy.

| In the absence of a copy protection scheme for digital broadcast television, content providers have asserted that they will not permit high quality programming to be broadcast digitally. (Reference to a letter from the Walt Disney Company.)

| In particular, we seek comment on the nature and extent of the piracy concerns expressed by content providers.

This is a common claim brought forth by the theatrical motion picture studios. The claim is that the studios could not broadcast blockbuster movies on free digital television without copy protection, because those movies would constitute "perfect digital masters" which could serve as a source for pirate editions of the work.

This claim does not reconcile with the business model of the motion picture industry. The motion picture industry has established a business model designed to maximise revenue. The business model features a staggered release of works in different media:

 Theatres, followed by
 Video/DVD rentals and sales, followed by
 pay per view, premium cable, followed by
 Commercial broadcast television.

I would like to examine the potential for piracy inherent in each of these release windows.

The problem of piracy during the theatrical run is well known -- such pirated copies are often called "camcorder" copies, as they are typically made with consumer camcorders smuggled in theatres. This form of piracy typically yields low quality copies, and is unaffected by the broadcast flag.

The first (and best) opportunity for high-quality piracy of motion pictures comes in the Video/DVD rental period. It is at this point that the best available quality copies of works are sold to the public. The Video and DVD

releases are typically full length, high resolution, maximum quality, unedited, uncropped copies of the work.

There are two methods available for making unauthorized copies of theatrical movies from these Video/DVD copies. The first is the use of video capture cards, as described above. The second method applies to DVDs. A computer program, called DeCSS, is available which permits the recovery of a perfect digital copy of the digital video stream from a DVD. This program, despite efforts to suppress it, is widely and trivially available on the internet. This software represents a permanently available method of producing virtually perfect copies of theatrical motion pictures, long before those motion pictures appear on broadcast television.

Pay per view and premium cable offer piracy opportunities similar to Video/DVD, except that the quality would be lower.

Broadcast signals share the characteristics of being both the last stage in the distribution of motion pictures, and the lowest quality. Leaving aside completely the issue of whether digital broadcasts are of higher quality of analog broadcasts, such commercial broadcast transmissions of motion pictures are ill-suited for piracy, for a number of reasons.

- 1) They are often edited for content, to meet FCC broadcast standards for language, violence, and nudity.
- 2) They are often cropped to fit the screen.
- 3) They are often edited for time
- 4) They nearly always include "station bug" overlays for portions of, or increasingly, the entire broadcast, impairing the picture.
- 5) They often include scrolling information on the bottom of the screen such as breaking news stories, messages such as "stay tuned for ***** following our movie), or emergency weather information.
- 6) The credits are usually not shown.

In short, even if one were to accept that a digital commercial television broadcast was an extreme improvement over an equivalent analog television broadcast, the resulting recording would still be vastly inferior to the same DVD that could be rented for a dollar at most video stores.

| As an initial matter, we seek comment on whether quality digital programming
| is now being withheld because of concerns over the lack of digital broadcast
| copy protection.

I believe that the apparent lack of digital broadcast copy protection results from a number of factors:

- 1) The additional expense of producing HDTV content
- 2) The perceived lack of acceptance of the format, which combine to form:

3) An inadequate cost-benefit ration

In addition, I would consider the commission to consider whether a fourth factor exists:

4) Deliberate foot-dragging in providing HDTV content, used as a bad-faith effort to obtain FCC regulations requiring digital copy protection on broadcast television signals as a form of ransom.

| To what extent would the absence of a digital broadcast copy protection scheme and
| the lack of high quality digital programming delay or prevent the DTV transition? Would
| the resulting dynamic threaten the viability of over-the-air television? What impact would
| this have on consumers?

This question begs the question of exactly who is in charge of the airwaves. It is the FCC that licenses the public resource of the broadcast spectrum in the name of the people of the United States. The broadcast spectrum is an overwhelmingly valuable resource, which is given away at far, far under its true market value. (Imagine the amounts of money that would be bid if television stations were licensed by an annual auction process.)

The problem would best be solved by the FCC pressing its mandate for parallel analog and digital broadcasts. Quite simply, I recommend that the Commission "call the bluff" and pass regulations that result in the revocation of the broadcast licenses of any television stations that refuse to provide digital equivalents of analog broadcasts.

It is highly unlikely that any television station will choose to relinquish their license rather than get with the program. In the unlikely event that some television stations refuse to meet the broadcast requirement, I'm sure that the FCC would have no problem in finding replacements to take over the vacated channels.

To directly answer the first question, no dynamic will threaten the viability of over-the-air television. The value of an FCC television broadcast license is so overwhelmingly high that will always be profitable to operate a television network.

In answer to the second question:

1) The loss of "Hollywood blockbusters" on network television is extremely unlikely, for the simple reason that network broadcast of motion pictures represents a very large percentage of the income of the motion picture industry. In short, networks pay enormous amounts of money for the right to broadcast movies on commercial television. The motion picture industry would suffer financial collapse if they were to boycott broadcast television, so they will not do it. All that is necessary to ensure that Hollywood motion pictures appear on digital television is to mandate that digital television broadcasts mirror analog television broadcasts.

2) HDTV presentations of motion pictures are "prestige" events. The networks are highly financially motivated to convince the motion picture studios to agree to such broadcasts. No FCC involvement is necessary in this purely commercial process.

3) In the unlikely event that the resulting dynamic resulted in the removal of some or all motion picture broadcasts from commercial television, the impact on consumers would be minimal. With the advent of the wide variety of cable movie channels, and the widespread availability of movie rentals, broadcast television has largely focused on original programming -- television series and sports events. The affect on consumers would be minimal because motion pictures are widely and cheaply available in the context of cable television and movie rentals. If tomorrow's movies are never broadcast on television, it won't matter because you will be able to rent them for a dollar.

| On the reception side, we seek comment on whether the Commission should mandate that
| consumer electronics devices recognize and give effect to the ATSC flag or another type
| of content control mark. If so, we seek comment on whether htis mandate should include
| devices other than DTV broadcast receivers and what the resulting impact would be on
| consumers.

I request that the Commission refrain from placing any requirements or restrictions on consumer electronics devices, for three reasons:

REASON 1: Such a requirement would conflict with Congressional intent with regards to the commercial broadcast spectrum.

The general policy regarding commercial broadcasts on the public resource of the broadcast spectrum is that, with specific exceptions, they must be cleartext, and unencrypted. This is the entire reason that the content industry stands before you today. Congress and the FCC

have mandated that digital television signals be transmitted in cleartext, and the content industry doesn't like it.

The content industry is in effect requesting that the FCC perform an "end-run" around this requirement by establishing laws that would nullify the public benefit of open access to the public broadcast spectrum by effectively outlawing the production of reception equipment that does not impose the same encryption on the recovered signal that is illegal during transmission.

I believe that the action of the Commission should mirror the approach taken in the Digital Millennium Copyright Act, specifically 17 USC 1201(k).

17 USC 1201(k) provides that all analog video recorders must be designed to respond to a specific signal, commonly called Macrovision, and restrict or prevent the recording of signals bearing this signal. In passing this requirement, Congress was aware that there was a danger that broadcast stations would broadcast the Macrovision signals, thus making certain broadcasts unrecordable on VCRs.

In order to prevent this, 17 USC 1201(k)(2) imposes a prohibition on the imposition of the Macrovision copy protection signal on terrestrial broadcast free television signals, making it a federal crime punishable by fines of up to \$2,500 per offense.

I believe that the FCC action should mirror the Congressional approach to the right of public access to the broadcast spectrum, and not impose any restrictions of any type on the right, or more specifically, the ability of the public to access the digital broadcast spectrum.

REASON 2: Such a requirement would stifle both the "established entities" development of new technologies, as well as the more important "grass roots", or bottom-up innovation of new technologies.

The technology industry is famous for spectacular inventions by newcomers to the industry. Some of the largest corporations in the industry were formed because individual outsiders were able to invent and market new technologies without government or industry supervision or interference. Examples are early personal computers, such as the Apple II, and more recently the Linux operating system and the development of MP3 as a digital audio compression and distribution standard.

A requirement to recognize a "broadcast flag" would severely limit the sorts of invention which would be possible and legal.

For instance, the development of "sampling" of music -- the creative utilization of short bits of existing recordings as the "raw material" for the creation of new works has revolutionized the music industry and created an entire spectrum of new art forms. It is not lost on the author that such works may not be legally distributed without obtaining copyright clearances on the original works, or justifying the use of the samples under other legal doctrine, such as fair use. However, the creative process requires that such artists have unfettered access to the world of recorded music in order to create such works in the first place. The creative process would be destroyed if artists had to begin the creative process by licensing works, as they would have no ability to arrive on their expressions by "trial and error." Also, a great number of amateurs created "sampled" music as a hobby, some of which will go on to become the copyright-paying professionals of the next generation.

Certainly, as individuals acquire the ability to manipulate television sounds and images, new and expressive art forms will arise. The progress of such new art forms will be driven by the invention -- and availability -- of new video manipulation technologies. Any technology that limits the ability of the general public to manipulate audiovisual works, at the very least for their own personal education, development, and entertainment, threatens to diminish or destroy an entire field of developing artistic activity.

REASON 3: The real-world experience with the Audio Home Recording Act suggests that such a requirement would reduce the demand for digital television technology.

In the late 1980s, a new audio recording technology was invented -- Digital Audio Tape, or DAT. DAT recorders provide the ability of consumers to make digital audio recordings that exceed the sound quality of Compact Discs.

One would expect that such a format would rapidly replace cassettes. This did not happen. Instead, DAT technology languished. Many observers, myself included, blamed the lack of consumer acceptance of DAT on the Congressional Mandated copy protection system called SCMS, as defined in 17 USC 10.

In short, SCMS permitted a DAT recording to be copied from one DAT deck to another, but prevented any additional second or higher generation copies from being made. In addition, CD players were designed in such a way as to impose a "do not copy" signal which effectively blocked the production of DAT tapes from CD players with digital outputs. SCMS was only required on decks designated as "consumer" equipment -- "professional" equipment was exempted.

As an amateur musician, and collector of music by such bands as the Grateful Dead that explicitly condone "audience taping" and non-commercial tape trading of their live concerts, I was an early adopter of DAT technology. I

was also an active participant in online mailing lists of like-minded individuals,
and I can assure the Commission that the primary concern by person seeking to use DAT technology was the ability to work around the copy protection system in order to physically achieve what we had been granted legal license to do -- make and trade concert tapes.

The result was that the vast majority of "consumer" DAT decks dropped off of the market, leaving "professional" DAT recorders in their place. The primary factor in market acceptance of DAT technology was the lack of copy protection.

17 USC 10 provides an explicit exception to the SCMS requirement. Computer equipment is exempt. This includes computer-based CD recording drives.

There is a metric available that indicates what happened when copy-protection-free digital audio recording equipment (Computer-based CD recorders) hit the market. The AHRA mandates the collection of percentage-based industry copyright royalties on the sales of all digital audio media and recorders, including both DAT tapes and CDRs labelled for audio use. The chart of collected royalties, as provided to me by a third party, and unverified by the copyright office, graphically illustrates the market failure and decline of copy-protected DAT technology, followed by the explosive success of non-copy-protected CDR technology.

Digital Audio Royalty Collection In Dollars (The "DART" fund:)

1992	118,227.42
1993	520,162.84
1994	521,999.64
1995	473,592.20
1996	397,152.52
1997	969,178.06
1998	1,978,457.93
1999	3,551,030.86
2000	5,285,246.32

I do not have the figures for 2001 and 2002. It might be worth the time of the Commission to obtain them from the copyright office as an example of the enormous market power of placing unrestricted, unrestrained technology in the hands of consumers when it comes to inducing market success of new technologies.

For these three reasons, I believe that any imposition of copy protection or other technical requirements, either "at the point of demodulation", or at any later stage, would be contrary to Congressional intent, against the public interest, and likely to induce a market failure of digital television. I believe that copy protection requirements are absolutely and completely inappropriate in consumer set top boxes, digital recorders, digital servers, digital display devices, and as-of-yet unimagined and

uninvented technologies.

I urge the Commission to stay the course, and require commercial broadcasters to duplicate their analog broadcasts in their new, freely provided frequency allocations.

I request that the FCC adopt the policy that no corporation, network, or movie studio should have the ability to obstruct the process by withholding digital programming while continuing to enjoy the benefits of access to the analog spectrum. Permission to broadcast on the public airwaves is a privilege, not a right, and with that privilege comes the responsibility to make their broadcasts available for public use. The justifications offered by the industry to curtail this responsibility are unjustified and should be rejected.

The requirement of free access to the public broadcast spectrum is just as valid and in the public interest in the digital domain as it is in the analog domain.

Thank you for the opportunity to comment in this matter.

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